

# **WILDLIFE HABITAT INCENTIVES PROGRAM IMPLEMENTATION PLAN Tennessee 2006 - 2007**

Authorities: The Wildlife Habitat Incentives Program (WHIP) was established by the Federal Agriculture Improvement Act of 1996 (FAIRA) for the purpose of making technical and financial assistance available to landowners to develop, enhance, and restore habitat for upland wildlife, wetland wildlife, threatened and endangered species, fish and aquatic life, and other types of wildlife habitat. WHIP was reauthorized by the Farm Security and Rural Investment Act of 2002. The Adjusted Gross Income (AGI) provision of the 2002 Farm Bill impacts eligibility for WHIP. Individuals or entities having an average adjusted gross income exceeding \$2.5 million for the three tax years immediately preceding the year the contract is approved are not eligible to receive program benefits or payments. However, an exemption is provided in cases where 75 percent of the adjusted gross income is derived from farming, ranching, or forestry operations.

Introduction: The topography of Tennessee is among the most varied in the United States, ranging from mountains in the east to swampy river bottoms in the west. Middle Tennessee is known for its rolling hills and karst geological features. Tennessee's elevations range from 253 feet in the west to 6,642 feet in the east. Approximately one-half of the land in Tennessee is used for agriculture [2005 305b Report - Tennessee Department of Environment and Conservation (TDEC)].

Tennessee is one of the most biodiverse states in the nation, having the most diverse vertebrate fauna of any inland state. Currently, 325 species of fish, 77 mammals, 56 reptiles, 70 amphibians, and over 340 species of birds are known to inhabit or migrate through Tennessee. There are at least 49 endemic species in the state.

Tennessee also has the most mollusk fauna of any inland state (currently, 460 species and forms of mollusks; 18 species have become extinct). As of 2005, there were 39 species of freshwater mussels listed as endangered and two listed as threatened. Invertebrate species include 77 crayfish and many insects. Subterranean habitats and fauna are found throughout the eastern two-thirds of the state. Tennessee is thought to have more caves than any other state in the country (>9,000) (Tennessee Wildlife Resources Agency 2005).

Support Role to Tennessee's *Comprehensive Wildlife Conservation Strategy*: The 2006-2007 WHIP Implementation Plan tiers to the State of Tennessee's *Comprehensive Wildlife Conservation Strategy (CWCS)* prepared by the Tennessee Wildlife Resources Agency (TWRA) and its partners to satisfy requirements of the State Wildlife Grant programs. In 2000, Congress identified eight required elements to be addressed in each State's *CWCS*. At sufficient funding levels, WHIP can directly support Elements 3 and 4 of the *CWCS*:

**Element 3** – Descriptions of problems which may adversely affect species identified in Element 1 or their habitats and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitat.

**Element 4** – Descriptions of conservation actions proposed to conserve the identified species and habitats and priorities for implementing such actions.

Tennessee's *CWCS* lists 37 "potential sources of stress affecting GCN (greatest conservation need) species and habitats in Tennessee." Of the 37 potential stress sources, 16 are related to stressors which can be reduced by implementation of WHIP practices and other USDA/NRCS practices that affect wildlife habitat. The 16 stressors that may be addressed by Tennessee WHIP conservation practices include:

- Agricultural Conversion
- Channelization of Rivers/Streams
- Construction of Dams/Impoundments
- Construction of Ditches/Dikes/Drainage/Diversion Systems
- Excessive Competition/Predation by Native Species
- Fire Suppression
- Forest Type Conversion
- Incompatible Animal Production Practices
- Incompatible Forestry Practices
- Incompatible Grazing/Pasture Management Practices
- Incompatible Row Crop Agricultural Practices
- Incompatible Species Management Practices
- Invasive Exotic Species
- Operation of Drainage/Diversion Systems
- Parasites/Pathogens
- Shoreline Stabilization

#### **Additional Habitat Concerns**

**Abandoned Mine Lands:** An additional stressor not specifically included in the *CWCS* is abandoned mine lands. Wildlife habitat in the Cumberland Plateau area of the state has been severely impacted by abandoned mine land. In the past, some abandoned mine lands have been vegetated with tall fescue and other non-native plants, and some have received no treatment and have little to no vegetative cover. Through Public Law 566, several abandoned mine sites with critical water quality problems in Tennessee have been remediated in this area, most recently with native vegetation. WHIP can successfully address sites where restoration of native wildlife plants is needed without extensive water quality remediation. As of May 2006 there are three active WHIP contracts on which native vegetation has been (or will be) restored to abandoned surface mine lands.

**Rare, Threatened, and Endangered Plants:** Although WHIP is dedicated to wildlife species, Tennessee's rare, threatened, and endangered plants, and their habitats, will benefit through conservation, restoration, and diversification of the state's native grassland habitats, riparian areas, wetlands, and woodlands.

Tennessee WHIP Objectives:

1. Increase habitat and populations of early successional wildlife species.
2. Increase and improve wetland habitat for wetland species.
3. Improve stream and fisheries habitat (includes water quality improvement) for aquatic species.
4. Improve habitat and control off-site water pollutant sources for State and Federal rare, threatened, and endangered species.
5. Control invasive plant species to improve and increase suitable habitat for species listed in 1-4 above.

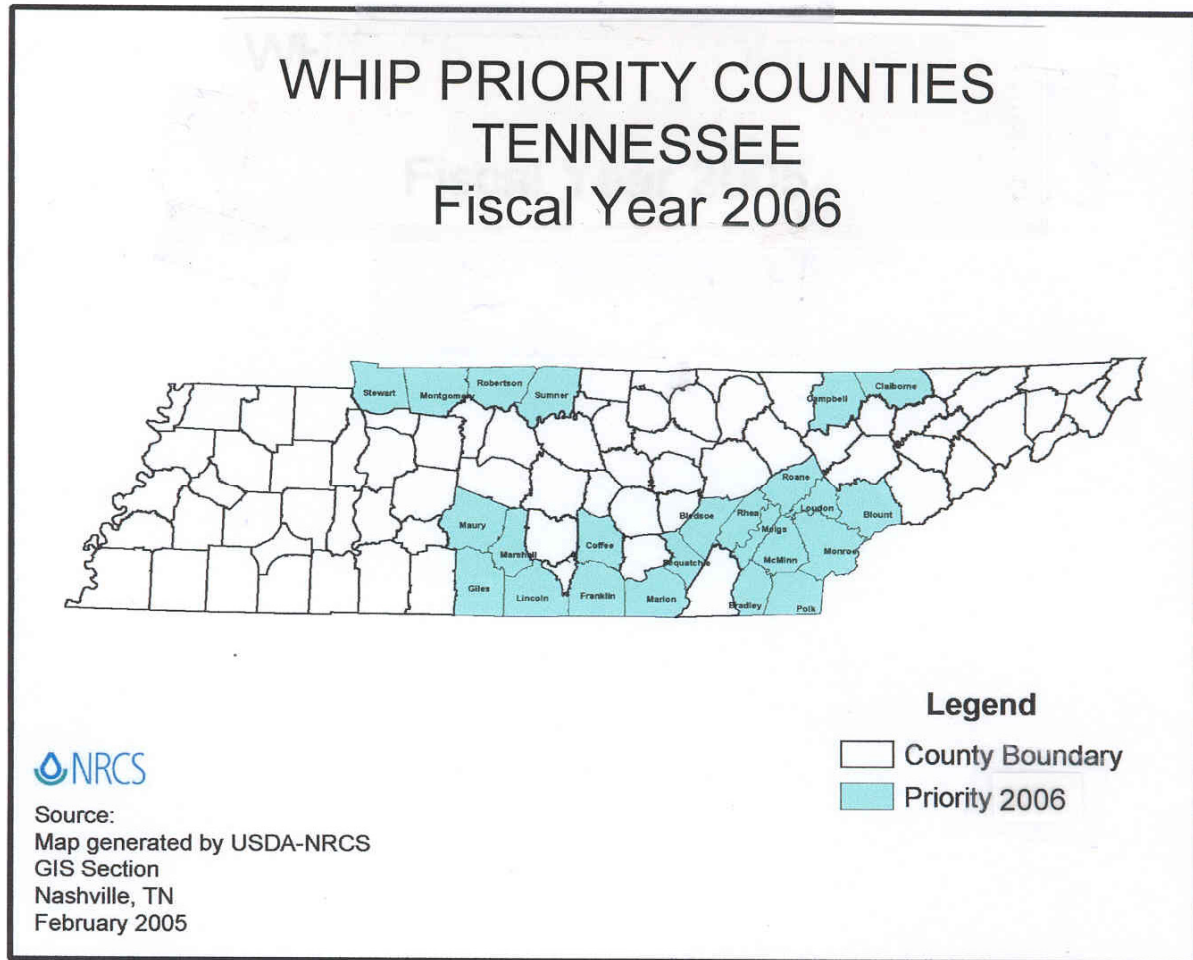
**Early Successional Habitat:** The Tennessee Wildlife Resources Agency (TWRA) and the U.S. Fish and Wildlife Service (USFWS) have identified bobwhite quail and avian species associated with grassland and early successional habitat as being a "Priority Conservation Concern" in Tennessee; therefore, indicator species selected for early successional habitat for WHIP are bobwhite quail and other avian species associated with grassland and early successional/shrub habitats. Since 1960, bobwhite quail populations have declined drastically in over three-fourths of the states within their geographical distribution. Major contributors to the decline are increasing urbanization and loss of native warm season grasses and shrubs on rural lands.

In Tennessee, it is estimated that up to 3 million acres have been converted to tall fescue. Although useful for pasture, tall fescue has replaced native vegetation contributing to the decline of bobwhite quail and other small animal species. Fescue eradication and replacement with warm season grasses is available through WHIP in Tennessee. Small mammals, hawks, State and Federal listed avian species, and reptiles whose numbers are declining in the state will also benefit from restoration of native warm season grasses and shrubs.

WHIP practices addressing early successional habitat include field border, filter strip, perennial food plot, permanent wildlife planting, permanent wildlife opening, light strip disking, prescribed burning, fencing, and pest management (invasive species control). Ponds and wildlife watering facilities will provide wildlife water in areas where it is insufficient.

WHIP Priority Areas have been established to target upland early successional wildlife required for recovery of bobwhite quail and other declining species. Priority areas are located throughout the state based on the recovery potential for indicator and target species. Applicants whose land is within the Priority Areas receive additional points in their application Ranking Score.

## Tennessee 2006 WHIP Priority Map



**Wetland Habitat:** Over the last Century, Tennessee has lost 60 percent of its original wetlands (2005 305b Report-TDEC); about 787,000 acres of wetlands remain. The largest single cause of loss of wetlands in Tennessee is hydrologic modification from channelization and leveeing. Another major impact to wetlands is siltation. The Tennessee Department of Environment and Conservation (TDEC) has identified 54,811 wetland acres impaired by pollution or loss of hydrologic function. Wetland habitat restoration and creation available through WHIP will benefit declining wetland species by enhancing and increasing wetland acres. Other practices to benefit wetlands include fencing, filter strips, and pest management.

**Stream and Fisheries Habitats:** Tennessee has over 60,000 miles of streams and over 536,000 acres of publicly owned lakes and reservoirs. All bodies of water in Tennessee are designated for at least two public uses: Fish and Aquatic Life and Recreation. Twenty-nine (29) percent of streams accessed fail to meet the fish and aquatic life criteria. Siltation is the most frequently cited pollutant of Tennessee streams. Pathogens (bacteria), low dissolved oxygen, and nutrients are also major pollutants. Other pollutants occur in smaller amounts. Almost 42 percent of identified pollutants of Tennessee's streams are agriculture related (2005 305b Report-TDEC).

WHIP practices addressing stream and fisheries habitats include filter strips, riparian forest buffers, streambank and shoreline protection, and fencing (livestock exclusion).

**Rare, Threatened, and Endangered Species:** Tennessee has over 1,100 rare and endangered plant and animal species (TDEC 2006). Of these, 70 animal species and 20 plant species are on the Federal endangered and threatened list. The remainder is State listed. Of the 70 federally listed animal species, 60 are aquatic. In Tennessee, at least 74 animal species are known to be endemic. All WHIP practices may be used to protect or enhance plant and animal T&E and other listed species.

**Invasive plant species** compete with native species and decrease the quality, quantity, and diversity of early successional and upland wildlife habitat. Implementation of Pest Management for control of invasive species has been added to Tennessee's WHIP practices beginning in 2006. Invasive plants to be treated through WHIP must be listed in the *Tennessee Department of Agriculture Pest Plant List* or the *Tennessee Invasive Exotic Plant List - Tennessee Exotic Pest Plant Council, Rank 1 – Severe Threat*.

National and State WHIP Priorities: Tennessee WHIP Priorities meet the intent of the National WHIP Priorities.

**Tennessee WHIP Habitat Priorities:**

- Early successional habitat.
- Wetland habitat.
- Stream and fisheries habitat.
- Rare, threatened, and endangered species habitat.
- Effects of invasive species on above habitats.

**National WHIP Priorities:**

- Promote the restoration of declining or important native wildlife habitats.
- Protect, restore, develop, or enhance wildlife habitat of at-risk species.
- Reduce the impacts of invasive species on wildlife habitats.
- Protect, restore, develop, or enhance declining or important aquatic wildlife species' habitats.

### TENNESSEE WHIP PRIORITIES

<b>National WHIP Priorities:</b>	<b>Early Successional Habitat</b>	<b>Wetland Habitat</b>	<b>Stream/Fisheries Habitat</b>	<b>T&amp;E Species Control</b>	<b>Invasive Species</b>
Promote the restoration of declining or important native wildlife habitats.	✓	✓	✓	✓	✓
Protect, restore, develop, or enhance wildlife habitat of at-risk species.	✓	✓	✓	✓	✓
Reduce the impacts of invasive species on wildlife Habitats.	✓	✓		✓	✓
Protect, restore, develop, or enhance declining or important aquatic wildlife species' habitats.		✓	✓	✓	

WHIP Conservation Practices: Habitat improvements in support of Tennessee and National WHIP Priorities are being achieved by implementation of conservation practices beneficial to Tennessee's declining species.

Practices available through WHIP in Tennessee are:

#### **WHIP 1 Field Border**

**FOTG Practice Code 386**

Practice Purpose: To establish permanent wildlife habitat on field edges of cropland, pasture/hay land, idle grassy areas, and other land uses to provide food, cover, and travel corridors for wildlife.

#### **WHIP 2 Filter Strip**

**FOTG Practice Code 393**

Practice Purpose: To benefit aquatic and semi-aquatic wildlife species by establishing a vegetative cover of grasses/forbs that will filter sediment, nutrients, or other potential contaminants and provide food and cover for terrestrial wildlife.

#### **WHIP 3 Perennial Food Plot**

**FOTG Practice Code 645**

Practice Purpose: To establish a vegetative cover of native forbs or legumes to provide wildlife food benefits.

#### **WHIP 4 Permanent Wildlife Planting**

**FOTG Practice Code 645**

Practice Purpose: To establish a vegetative cover of native grasses/forbs to provide wildlife food and cover benefits.

**WHIP 5 Hedgerow/Wildlife Corridor****FOTG Practice Codes 422**

Practice Purpose: To establish a vegetative cover of shrubs or trees in, around, or across fields that will provide wildlife food and cover benefits and serve as a wildlife corridor to facilitate animal movements.

**WHIP 6 Forest Wildlife Opening****FOTG Practice Code 645**

Practice Purpose: To establish a permanent opening of primarily herbaceous vegetation and shrubs within woodland areas to provide food and cover benefits for early successional wildlife species. Both **forest openings** and **edge feathering** are included in this practice.

**WHIP 7 Pond****FOTG Practice Code 378**

Practice Purpose: To establish a sufficient source of water for wildlife.

**WHIP 8 Wildlife Watering Facility****FOTG Practice Code 648**

Practice Purpose: To establish a sufficient source of water for wildlife.

**WHIP 9 Light Strip Disking****FOTG Practice Code 645**

Practice Purposes:

- To reduce grass density and encourage forbs and legumes to regenerate for wildlife food and to maintain early successional habitat.
- To establish legumes or wildflowers to provide food and cover for wildlife.
- To establish a firebreak for conducting a prescribed burn.

**WHIP 10 Prescribed Burning****FOTG Practice Codes 338**

Practice Purpose: To reduce grass density and encourage forbs and legumes for wildlife food and cover and to maintain early successional habitat.

**WHIP 11 Riparian Forest Buffer****FOTG Practice Code 391**

Practice Purpose: To remove excess nutrients, sediment, and other pollutants from surface runoff, improve water quality, provide food and shading for aquatic species, and provide food and cover for other wildlife. Ponds, lakes, streams, wetlands, sinkholes, karst areas, and other ground water recharge areas may be treated with this practice.

**WHIP 12 Streambank and Shoreline Protection****FOTG Practice Code 580**

Practice Purpose: To stabilize eroding streambanks while providing improved fish habitat, aquatic endangered and threatened species habitat, and water quality benefits.

**WHIP 13 Wetland Enhancement/Creation  
/Restoration****FOTG Practice Code 657**

Practice Purpose: To provide habitat for waterfowl, wading birds, other aquatic-based wildlife, and neotropical songbirds while providing water quality benefits to associated wetlands and water bodies.

**WHIP 14 Fencing****FOTG Practice Code 382**

Practice Purpose: To exclude livestock from areas where wildlife habitat and water quality are to be protected including upland wildlife habitat, woodlands, wetlands, riparian areas, streams, sinkholes, and other water bodies

**WHIP 15 Pest Management/  
Invasive Species Control****FOTG Practice Code 595**

Practice Purpose: To eliminate or control the spread of noxious/invasive plant species to restore, maintain, or enhance wildlife habitat. Invasive plants to be treated must be listed in the *Tennessee Department of Agriculture Pest Plant List* or the *Tennessee Invasive Exotic Plant List - Tennessee Exotic Pest Plant Council, Rank 1 – Severe Threat*.

All practices implemented through WHIP must meet NRCS standards and specifications. NRCS standards and specifications can be viewed in the NRCS Field Office Technical Guide, Section IV.

Tennessee General Requirements:

- Completion of TN-CPA-25, Environmental Effects for Conservation and Areawide Plans, certifying National Environmental Policy Act (NEPA) and compliance with other applicable laws and regulations is required for each Wildlife Habitat Incentives Program (WHIP) Wildlife Habitat Development Plan.
- A soil test is required for ALL herbaceous plantings.
- Cost share for practices will be paid by the average cost method (AC).

Tennessee Ranking Criteria: The ranking criteria were developed to prioritize sites offered into the program that:

- Provide early successional wildlife habitat consisting of native warm season grasses or shrubs.
- Provide wetland wildlife habitat.
- Provide specific habitat for rare, threatened, or endangered species.
- Provide water quality benefits to stream and aquatic wildlife.

- Address invasive plant species control.

The ranking criteria were developed with input from the State Technical Committee. WHIP applications with the highest ranking scores will be funded. The amount of funding available is based on annual Congressional appropriations for WHIP and appropriations from NRCS National Headquarters to the State.

The Tennessee 2006 WHIP ranking criteria can be viewed at the following web address: <http://www.tn.nrcs.usda.gov>. Go to ‘**Programs**’ and then ‘**WHIP**’. In 2007, a national ranking tool will replace present state ranking tools. The national ranking tool will provide national consistency while allowing states and local working groups to tailor the ranking to state and local needs.

#### Partnership Involvement:

Partner support for WHIP is listed below.

#### **TWRA :**

- Cooperative funding of two area wildlife biologist positions.
- Drills and sprayers provided to landowners.
- Technical assistance to District Conservationists and directly to landowners.

#### **TDEC – Division of Natural Heritage**

- Rare, threatened, and endangered species database support.

#### **USFWS:**

- Threatened and endangered species support.

#### **Quail Unlimited:**

- Technical assistance.
- Tractors, drills, and sprayers.

#### **Soil Conservation Districts:**

- Drills, sprayers, lime spreaders.

#### **Tennessee Department of Agriculture:**

- Cost-share funding for drills, lime spreaders, and other equipment.

Evaluation: To evaluate the effectiveness of WHIP conservation planning and implementation, Tennessee will utilize the *Wildlife Habitat Evaluation Procedure For Resource Management Systems* located in the “Tools” tab of Section IV of the NRCS Tennessee Field Office Technical Guide (FOTG). The *Wildlife Habitat Evaluation Procedure* will be completed before installation of conservation practices (baseline), after implementation of conservation practices (but before the end of the contract period), and immediately before contract expiration to determine improvement or enhancement of wildlife habitat installed through WHIP. In order to meet WHIP wildlife quality criteria, the conservation treatment unit index must be 0.75 or greater following implementation of WHIP conservation practices. Additionally, PRS and ProTracts will be used to track field level through state level gains and enhancements in wildlife habitat.

The Tennessee Wildlife Resources Agency (TWRA) and other wildlife-oriented agencies and groups currently monitor and evaluate wildlife populations and their habitat at varying levels of data complexity. These partners are integral for measurement of wildlife response and effectiveness of NRCS programs.

On a larger scale and time frame, the NRCS National Resources Inventory (NRI) statistically measures the status, conditions, and trends of natural resources on non-federal lands. In the near future, NRI information gathered through land use changes should allow evaluations of NRCS conservation programs including WHIP.